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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/759,776	01/12/2001	Antti Toskala	297-010049-US(PAR)	9662

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EXAMINER

TON, ANTHONY T

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 05/18/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/759,776

Applicant(s)

TOSKALA ET AL.

Examiner

Anthony T Ton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Abstract Objections

1. The abstract is objected to because of the following informalities:

Term “**Figure 4**” in the last part of the abstract is improper.

Examiner suggests deleting this term from the abstract.

Appropriate correction is required.

Specification Objections

2. The disclosure is objected to because of the following informalities:

a) Term “**upling**” in page 2 line 7 is misspelling.

Examiner suggests changing this term to “**uplink**”.

b) Term “**a mobile terminal (UE, user equipment) 103**” in page 8 line 21 is not shown in Fig.6 of the Drawings.

Examiner suggests deleting this term; otherwise, add a block diagram that represents for the UE 103 into the Fig.6.

c) Term “**is comprises**” in page 8 line 22 is improper in grammar structure.

Examiner suggests changing this term to “**comprises**”.

Appropriate correction is required.

Claim Objections

3. **Claims 5 and 6** are objected to because of the following informalities:

a) **In the Claim 5:** Term “**it**” in line 7 is not very clear; for what subject does the term “**it**” stand for? It is very confused.

Examiner suggests changing this term to “**the cellular telecommunication network**”.

b) **In the Claim 6:** Term “**it**” in line 6 is not very clear; for what subject does the term “**it**” stand for? It is very confused.

Examiner suggests changing this term to “**the system**”.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1-8** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) **Claim 1** recites limitation “**the transmission level** of at least the training sequence part” in line 7 and line 8. There is insufficient antecedent basis for the limitation of “**the transmission level**” in the claim.

b) **Claim 1** recites limitation “**the training sequence part**” in lines 8-9. There is insufficient antecedent basis for this limitation in the claim. Is this limitation the same as limitation “**at least the training sequence part**” recited in line 7 and in lines 4-5?

c) **Claim 4** recites limitation “**the reception level**” in line 12 and line 14. There is insufficient antecedent basis for this limitation in the claim.

d) **Claim 4** recites limitation “**the basis**” in line 13. There is insufficient antecedent basis for this limitation in the claim.

e) **Claim 5** recites limitation “**the base station**” in line 3. There is insufficient antecedent basis for this limitation in the claim.

f) **Claim 5** recites limitation “**the reception level**” in line 9. There is insufficient antecedent basis for this limitation in the claim.

g) **Claim 5** recites limitation “**the quality**” in line 11. There is insufficient antecedent basis for this limitation in the claim.

h) **Claim 5** recites limitation “**the basis**” in lines 11-12. There is insufficient antecedent basis for this limitation in the claim.

i) **Claim 6** recites limitation “**the transmission level** of at least the training sequence part” in line 7 and line 9. There is insufficient antecedent basis for the limitation of “**the transmission level**” in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Muller** (US Patent No. **6,483,375**) in view of **Kim** (US Patent Application Publication No. **2001/0005681**), and further in view of **Moulsley** (US Patent No. **6,407,993**).

a) **In Regarding to Claim 5: Muller disclosed** a mobile terminal of a cellular telecommunication network,

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which mobile terminal is arranged to employ time division duplex mode and to receive bursts carrying information from the base station, the bursts having at least a data part and a training sequence part (*see Fig.6: block 30 (mobile station), blocks 23 and 28s (base station); and see Fig.3: (information burst), supported cells services (data part) and paging channel(s), and*

which mobile terminal is arranged to receive paging indicators carried in certain bursts (*see Fig.1: page indicator in each block of paging group*),

characterized in that it comprises

means for receiving a paging indicator burst (*see Fig.6: block 26 Radio Network Controller (RNC)*),

means for measuring the reception level of the training sequence part of said paging indicator burst (*see Fig.7: block 32 data processing and control unit (means for measuring); and see col.4 lines 50-62: a network communication is a request from the radio network sent to one or more mobiles requesting that those mobiles measure certain parameters, e.g., signal strength. The returned signal strength values (hence the reception level) may be used by the network for operations or maintenance tasks like system planning, etc.)*), and

means for determining a result value indicating the quality of the radio link on the basis of the output of said means for measuring (*see Fig.4: initial power and peak power parameters; and see Fig.7: blocks 32 and 33; see col.7 lines 34-42: data processing and control units 32 and 33 (means for determining a result value); and see Fig.12: steps 72-82 (a result value indicating the quality of the radio link)*).

Muller failed to explicitly disclose the reception level of training sequence part of the paging indicator burst, a paging indicator is a paging indicator burst and the mobile terminal is arranged to employed in TDD mode.

Moulsley disclosed such a paging indicator is a paging indicator burst and the mobile terminal is arranged to employed in TDD mode (*see Fig. 2: (a burst of information), blocks TS (training sequence); see col. 3 lines 53-57: data bursts; and see col. 9 lines 34-38: time division duplex (TDD)*).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such a paging indicator is a burst and the mobile terminal is arranged to employed in Time Division Duplex “TDD” mode throughout the broadcast channel and the mobile communication system of Muller, as taught by Moulsley so that a network controller can require a quick request to mobile stations, as well as both network controller and mobile station in a mobile communication network can be operated at the same frequency, **the motivation being** to control a mobile station in a cell more effectively if the mobile station is roaming from one cell to another cell.

Kim disclosed such the reception level of training sequence part of the paging indicator burst (*see Fig. 4: step 410 receive BCH message, and step 420 detect paging alert level information from the BCH message (hence the reception level of the training sequence part)*).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such the reception level of training sequence part throughout the restriction group routine as shown in Fig. 12 of Muller, as taught by Kim in order to provide the power level of the paging signal of a mobile station operating in TDD mode, **the motivation**

being to suit the quality of a link between a network controller and a mobile station in a mobile communication network.

b) In Regarding to Claim 4: This claim is rejected for the same reasons as Claim 5 because the apparatus in Claim 5 can be used to practice the method steps of Claim 4.

c) In Regarding to Claim 6: Muller disclosed a system in a radio access network of a cellular telecommunication system employing time division duplex mode (*see Fig.6*),

in which mode information is carried in bursts over the air interface (*see Fig.6: Radio I/F between BS 23, BS 28's and MS 30's*), and

in which mode paging indicators are carried in data part of certain bursts having at least a data part and a training sequence part (*see Fig.3: supported cells services (data part) and paging channel(s) (hence training sequence part)*),

characterized in that it comprises

means for adjusting the transmission level of at least the training sequence part of a burst carrying paging indicators to a certain level (*see Fig.7: block 32 data processing and control unit (means for adjusting); and see col.4 lines 50-62: a network communication is a request from the radio network sent to one or more mobiles requesting that those mobiles measure certain parameters, e.g., signal strength. The returned signal strength values (hence the transmission level) may be used by the network for operations or maintenance tasks like system planning (hence a certain level)*),

said certain level having a predefined relation to the transmission level of the training sequence part of a burst belonging to a channel, which is used in measurements of radio link quality (*see Fig.4: blocks initial power and peak power (the initial power parameter and the*

peak power parameter can provide to a certain level that has a predefine relation to the transmission level as provided in the broadcast channel as shown in Fig.3, and whereas the paging channel(s) in this broadcast channel is used in measurements of radio link quality); and see Fig.12: steps 72-82 (a result value indicating the quality of the radio link)).

Muller failed to explicitly disclose the transmission level of the training sequence part of a burst belonging to a channel, a paging indicator is a paging indicator burst and the mobile terminal is arranged to employed in TDD mode.

Moulsley disclosed such a paging indicator is a paging indicator burst and the mobile terminal is arranged to employed in TDD mode (*see Fig.2: (a burst of information), blocks TS (training sequence); see col.3 lines 53-57: data bursts; and see col.9 lines 34-38: time division duplex (TDD)*)).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such a paging indicator is a burst and the mobile terminal is arranged to employed in TDD mode throughout the broadcast channel and the mobile communication system of Muller, as taught by Moulsley so that a network controller can require a quick request to mobile stations, as well as both network controller and mobile station in a mobile communication network can be operated at the same frequency, **the motivation being** to control a mobile station in a cell more effectively if the mobile station is roaming from one cell to another cell.

Kim disclosed such the transmission level of the training sequence part of a burst belonging to a channel (*see Fig.4: step 410 receive BCH message, and step 420 detect paging*

alert level information from the BCH message (hence the transmission level of the training sequence part)).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such the transmission level of the training sequence part of a burst belonging to a channel throughout the restriction group routine as shown in Fig.12 of Muller, as taught by Kim in order to provide the power level of the paging signal of a mobile station operating in TDD mode, **the motivation being** to suit the quality of a link between a network controller and a mobile station in a mobile communication network.

d) In Regarding to Claim 7: Muller further disclosed characterized in that said channel is the primary common control physical channel (*see Fig.3: general broadcast channel*).

It would have been obvious to combine Muller, Kim and Mousley for the same reason as in Claim 6.

e) In Regarding to Claim 8: Muller, Kim and Mousley disclosed all aspects of the claim 8 as set forth in claim 6.

Muller, Kim and Mousley failed to explicitly disclose characterized in that said predefined relation is that the transmission level of at least the training sequence part of a burst carrying paging indicators is essentially the same as the transmission level of the training sequence part of a burst belonging to said channel.

However, Mousley disclosed a primary station PS1 coupled to a system controller SC and a secondary station SS1. Both stations are being operated in a cell CA1 in a two-way communication system and such a system is possible in time division duplex. On the basis of

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the information given in the header, power saving can be practiced by the transceiver. In use, the controller 42 can energize the receiver to receive the sync signal and header in each frame and if it determines that there are no data bursts for it, various stages of the receiver can be de-energized or put into a sleep mode (*see col.9 lines 16-20*). **Therefore**, it would be obvious that **Moulsley** disclosed such the transmission level of at least the training sequence part of a burst carrying paging indicators is essentially the same as the transmission level of the training sequence part of a burst belonging to said channel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement such the transmission level of at least the training sequence part of a burst carrying paging indicators is essentially the same as the transmission level of the training sequence part of a burst belonging to said channel of the instant claims to the controller 42 as taught by Moulsley so that a system controller in a mobile communication network can determine data bursts in a frame that is addressed to the controller and in consequence it de-energizes or puts into a sleep mode various stages of the receiver, **the motivation being** to maximize power saving in mobile communication networks.

e) **In Regarding to Claims 1-3:** These claims are rejected for the same reasons as Claims 6-8, respectively because the apparatus in Claims 6-8 can be used to practice the method steps of Claims 1-3, respectively.


Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T Ton whose telephone number is 703-305-8956. The examiner can normally be reached on M-F: 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Olms can be reached on 703-305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ATT
5/12/2004



**KENNETH VANDERPUYE
PRIMARY EXAMINER**